

What is claimed is:

1. A charging device for charging a surface of a body to be charged, comprising:

a charge roller comprising a metallic core and an elastic member covering a surface of said core; and

films respectively wrapped around opposite end portions of said charge roller such that said charge roller contacts the body to be charged via said films, wherein a voltage is applied between said charge roller and said body to be charged;

wherein when said elastic member deforms due to compression ascribable to contact of said charge roller with the body to be charged, said films deform along an outer periphery of said elastic member by a maximum amount, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

2. A charging device as claimed in claim 1, wherein said films have a thickness of 100 μm or below each.

3. A charging device as claimed in claim 2, wherein said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

4. A charging device as claimed in claim 2, wherein said elastic member has a hardness of 65° or above at a room temperature.

5. A charging device as claimed in claim 4, wherein

said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

6. A charging device as claimed in claim 2, wherein said elastic member has a thickness of 2.0 mm or below at a room temperature.

7. A charging device as claimed in claim 6, wherein said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

8. A charging device as claimed in claim 6, wherein said elastic member has a hardness of 65° or above at a room temperature.

9. A charging device as claimed in claim 8, wherein said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

10. A charging device as claimed in claim 1, wherein said elastic member has a thickness of 2.0 mm or below at a room temperature.

11. A charging device as claimed in claim 10, wherein said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

12. A charging device as claimed in claim 10, wherein said elastic member has a hardness of 65° or above at a room temperature.

13. A charging device as claimed in claim 12, wherein said charge roller is pressed by biasing members such that

said films remain in contact with the body to be charged.

14. A charging device as claimed in claim 1, wherein said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

15. A charging device as claimed in claim 1, wherein said elastic member has a hardness of 65° or above at a room temperature.

16. A charging device as claimed in claim 15, wherein said charge roller is pressed by biasing members such that said films remain in contact with the body to be charged.

17. In an image forming apparatus including a charging device for charging a surface of a body to be charged, said charging device comprising a charge roller made up of a metallic core, an elastic member covering a surface of said core, and films respectively wrapped around opposite end portions of said charge roller such that said charge roller contacts said body to be charged via said films, a voltage being applied between said charge roller and said body to be charged, when said elastic member deforms due to compression ascribable to contact of said charge roller with said body to be charged, said films deform along an outer periphery of said elastic member by a maximum amount, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

18. In an image forming apparatus including a charge roller, which comprises a metallic core and an elastic member covering said core, for charging a surface of a drum-like image carrier in response to a voltage applied between said charge roller and said image carrier to thereby allow a latent image to be optically formed on said surface, films are respectively wrapped around portions of said image carrier corresponding to opposite end portions of said charge roller such that said opposite end portions of said charge roller respectively contact said films, and portions of said elastic member deformed due to compression ascribable to contact of said charge roller with said image carrier have a maximum deformation, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

19. A charging device as claimed in claim 18, wherein said charge roller is pressed by biasing members such that the opposite end portions thereof respectively remain in contact with said films.

20. A charging device as claimed in claim 18, wherein said films have a thickness of 100 μm or below each.

21. A charging device as claimed in claim 20, wherein said charge roller is pressed by biasing members such that the opposite end portions thereof respectively remain in contact with said films.

22. In an image carrier unit removably mounted to a body of an image forming apparatus and comprising a charge roller, which comprises a metallic core and an elastic member covering said core, for charging a surface of an image carrier in response to a voltage applied between said charge roller and said image carrier to thereby allow a latent image to be optically formed on said surface, films are respectively wrapped around opposite end portions of said charge roller such that said charge roller contacts said image carrier via said films, and when said elastic member deforms due to compression ascribable to contact of said charge roller with said body to be charged, said films deform along an outer periphery of said elastic member by a maximum amount, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

23. A charging device as claimed in claim 22, wherein said films have a thickness of 100 μm or below each.

24. A charging device as claimed in claim 23, said elastic member has a hardness of 65° or above at a room temperature.

25. A charging device as claimed in claim 23, wherein said elastic member has a thickness of 2.0 mm or below at a room temperature.

26. A charging device as claimed in claim 25, said

elastic member has a harness of 65° or above at a room temperature.

27. A charging device as claimed in claim 22, said elastic member has a harness of 65° or above at a room temperature.

28. A charging device as claimed in claim 22, wherein said elastic member has a thickness of 2.0 mm or below at a room temperature.

29. A charging device as claimed in claim 28, said elastic member has a harness of 65° or above at a room temperature.

30. In an image carrier unit removably mounted to a body of an image forming apparatus and comprising a charge roller, which comprises a metallic core and an elastic member covering said core, for charging a surface of an image carrier in response to a voltage applied between said charge roller and said image carrier to thereby allow a latent image to be optically formed on said surface, films are respectively wrapped around portions of said image carrier corresponding to opposite end portions of said charge roller such that said opposite end portions of said charge roller respectively contact said films, and portions of said elastic member deformed due to compression ascribable to contact of said charge roller with said image carrier have a maximum deformation, as

measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

31. In an electrophotographic image forming apparatus including an image carrier unit removably mounted to a body of an image forming apparatus and comprising a charge roller, which comprises a metallic core and an elastic member covering said core, for charging a surface of an image carrier in response to a voltage applied between said charge roller and said image carrier to thereby allow a latent image to be optically formed on said surface, films are respectively wrapped around opposite end portions of said charge roller such that said charge roller contacts said image carrier via said films, and when said elastic member deforms due to compression ascribable to contact of said charge roller with said body to be charged, said films deform along an outer periphery of said elastic member by a maximum amount, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

32. In an electrophotographic image forming apparatus including an image carrier unit comprising a charge roller, which comprises a metallic core and an elastic member covering said core, for charging a surface of a drum-like image carrier in response to a voltage applied between said charge roller and said image carrier

to thereby allow a latent image to be optically formed on said surface, films are respectively wrapped around portions of said image carrier corresponding to opposite end portions of said charge roller such that said opposite end portions of said charge roller respectively contact said films, and portions of said elastic member deformed due to compression ascribable to contact of said charge roller with said image carrier have a maximum deformation, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

33. A charging roller facing a surface of a body to be charged and applied with a voltage, said charging roller comprising:

a metallic core;

an elastic member covering said core; and

films respectively rapped around opposite end portions of said charge roller;

wherein when said elastic member deforms due to compression ascribable to contact of said films with said body to be charged, said films deform along an outer periphery of said elastic member by a maximum amount, as measured in a radial direction of said charge roller, which is smaller than a thickness of said films.

34. A charging roller as claimed in claim 33, wherein opposite end portions of said core are larger in diameter

than the other portion of said core, wherein said elastic member is provided on said core, including said opposite end portions, such that said elastic member has a same outside diameter throughout an entire length in an axial direction, and wherein said films are respectively wrapped around portions of said elastic member corresponding to said opposite end portions of said core.

35. A charging roller as claimed in claim 34, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

36. A charging roller as claimed in claim 33, wherein said films have a thickness of 100 μm or below each.

37. A charging roller as claimed in claim 36, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

38. A charging roller as claimed in claim 36, wherein said elastic member has a hardness of 65° or above at a room temperature.

39. A charging roller as claimed in claim 38, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

40. A charging roller as claimed in claim 36, wherein said elastic member has a thickness of 2.0 mm or below at a room temperature.

41. A charging roller as claimed in claim 40, wherein

said charging roller comprises a charge roller for uniformly charging the body to be charged.

42. A charging roller as claimed in claim 40, wherein said elastic member has a hardness of 65° or above at a room temperature.

43. A charging roller as claimed in claim 42, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

44. A charging roller as claimed in claim 33, wherein said elastic member has a thickness of 2.0 mm or below at a room temperature.

45. A charging roller as claimed in claim 44, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

46. A charging roller as claimed in claim 44, wherein said elastic member has a hardness of 65° or above at a room temperature.

47. A charging roller as claimed in claim 46, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

48. A charging roller as claimed in claim 33, wherein said elastic member has a hardness of 65° or above at a room temperature.

49. A charging roller as claimed in claim 48, wherein said charging roller comprises a charge roller for

uniformly charging the body to be charged.

50. A charging roller as claimed in claim 33, wherein said charging roller comprises a charge roller for uniformly charging the body to be charged.

51. A charging roller facing a surface of a body to be charged and applied with a voltage, said charging roller comprising:

a metallic core including axially opposite end portions larger in diameter than the other portion;

an elastic member covering said core;

elastic member provided on said core, including said opposite end portions, such that said elastic member has a same outside diameter throughout an entire length in an axial direction; and

films respectively wrapped around portions of said elastic member corresponding to said opposite end portions of said core.

52. A charging roller as claimed in claim 51, wherein said charging roller comprises a charge roller for uniformly charging said body to be charged.

53. In a charging roller comprising a metallic core and an elastic member covering said core, a stripe-like or a wire-like spacer member is spirally wrapped around said elastic member.